

Figure 1

A. Rig open reading frame nucleotide sequence

atgccgaaacagagtaacgattaccgcgtggtggttcggggcgggcggtgggcaag
agctcgctggtgctgcgcttcgtgaagggcacgttcgcgcgacacctacatccccaccatc
gaggacacctaccggcaggtgatcagctcgacacaagagcgtGtgacgcgtgcagatcacac
gacaccggcagccaccagttcccggccatgcagcgcctgtccatctccaagggccac
gccttcctggtgttctccgtcaccagcaagcagtcgctggaggagctggggcccatc
tacaagctcatcgtgcagatcaagggcagcgtggaggacatccccgtgatgctcgtgggc
aacaagtgcgatgagacgcagcgggaggtggacacgcgcgagggcaggggtggcccaag
gagtggaaagtgcgcttcatggagacctcggccaagatgaactacaacgtcaaggagctc
ttccaggagctgctgacgctggagacgcgcgggaacatgagcctcaacatcgacggcaag
cgctccgggaagcagaagagagacagaccgcgtcaagggcaaatgcaccctcatgtga

B. Rig amino acid sequence

MPEQSNDYRVVFGAGGVGKSSLVLRVKGTFRDTYIPTIEDTYRQVISCD
KSVCTLQITD TTGSHQFPAMQRLSISKGHAFILVFSVTSKQSLEELGPIYKLIV
QIKGSVEDIPVMLVGNKCDETQREVD TREAQAVAQEWKCAFMETSAKMN
YNVKELFQELLTLETRRNMSLNIDGKRSKQKRTRDRVKGKCTLM

Figure 2

Rig	mpegsndyrvvvf-----	13
Noey2	mgnasfgskeqkllkrlrllpallilrafkphrkirdyrvvvv-	43
RalA	maankpkgqnsalalhkvimv-----	20
Rap1A	mreyklvvl-----	9
Rap2A	mreykvvl-----	9
HRas	mteyklvv-----	9
RRas	mssgaasgtgrgrprggpgpgdpppsethklvv-----	35
Rheb	mpqsksrkiaail-----	12
Rig	GAGGVGKSSlvrfrvkgtrfrdtYIPTIEDTYrqviscdksvctl	57
Noey2	GTAGVGKSTllhkwasgnfrheYLPITYcqlcgshgvlsl	87
RalA	GSGGVGKSAltqfmydefvedYEPTKADSYrkvvldgeevqi	64
Rap1A	GSGGVGKSAltqvfggifvekYDPTIEDSYrkqvevdccqcm	53
Rap2A	GSGGVGKSAltqvfggtfiekYDPTIEDFYrkeievdsspsvl	53
HRas	GAGGVGKSAltqgliqnhfvdeYDPTIEDSYrkqvvidgetcll	53
RRas	GGGVGKSAltqifiqsyfvsdYDPTIEDSYtkicsvdgiparl	79
Rheb	GYRSVGKSSltiqfveggfvdsYDPTIENTFtklitvngqeyhl	56
Rig	qitDTTGS HQfpamqrlsiskghafilvsvtskqsleelgpiy	101
Noey2	hitDSKSGDgnralqrhviarghafvlvsvtkketleelkafy	131
RalA	dildTAGQEDyaaairdnyfrsgegflcvfsitemesfaatadfr	108
Rap1A	eildTAGTEQftamrdlymkngggfalvysitaqstfndlqdlr	97
Rap2A	eildTAGTEQfasmdlyikngggfilvyslvgqsfqdikpmr	97
HRas	dildTAGQEEysamrdqymrtgegflcvfainntksfedihqyr	97
RRas	dildTAGQEEfgamreqymraghgflvfaindrqsfnvvgklf	123
Rheb	qlvDTAGQDEysifpqtysidingyilvsvtsiksfevikvih	100
Rig	klivqikgsvedipvmlvg-----NKCDetqrevdtreaqav	138
Noey2	elickikgnnlhkfpivlv-----NKSDdthrevalndgatc	169
RalA	eqilrvkedenvpfllvg-----NKSDledkrqvsveeakn	144
Rap1A	eqilrvkdtedvpmlvg-----NKCDledervvgkeggqn	133
Rap2A	dqiirvkryekvpvlvg-----NKVDleserevsseggra	133
HRas	eqikrvkdsddvpmlvg-----NKCDlaartvesrqaqdl	133
RRas	tqilrvkdrddfpvvlvg-----NKADlesqrqvprseasa	159
Rheb	gklldmvgkvqipimlv-----NKKDlhmervisyeegka	136
Rig	aqewkcaf---ETSAkmnynvkelfqelltletrrnmslnidg	179
Noey2	amewncaf---EISAKtdvnnvgelfhmllynkkkpttqlgepe	210
RalA	raeqwnvnyv---ETSAktranvdkvffdlmreirarkmedske	186
Rap1A	larqwcncaf---ESSAkskinvneifydlvrqinrktpvekkkp	176
Rap2A	laeewgcpfm---ETSAksktmvdelfaeivrqmnyaaqpdkddp	175
HRas	arsygipyi---ETSAktrqgvedafytlvreirqhklrklpp	174
RRas	fgashhvayf---EASAKlrlnvdeafeqlvravrkyqeqlpps	201
Rheb	laeswnaaf---ESSAkenqtavdvfrriileakmdgaasqgk	178
Rig	krsgkqrtdrvkgk-----//----CTLM	198
Noey2	kksqmpntteklldk-----//----CIIM	229
RalA	ngkkkrkslakrirer-----//----CCIL	206
Rap1A	kkks-----//----CLLL	184
Rap2A	ccsa-----//----CNIQ	183
HRas	desgpgcmsck-----//----CVLS	189
RRas	ppsaprkkgggcp-----//----CVLL	218
Rheb	ss-----//----CSVM	184

Figure 3

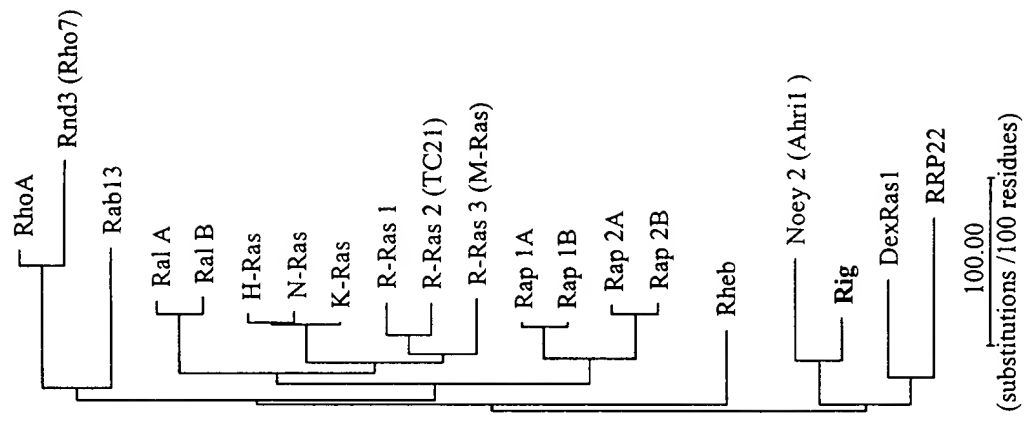
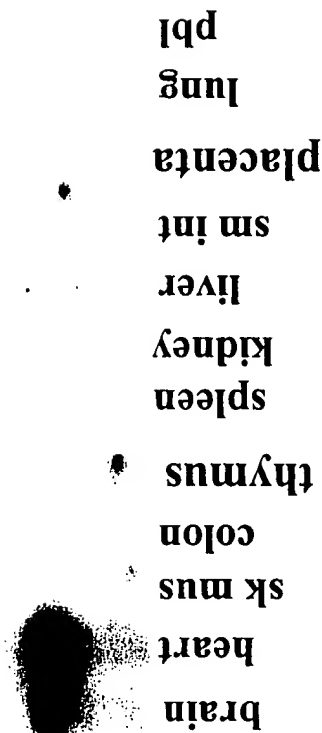


Figure 4

(A)



(B)



(C)

	1	2	3	4	5	6	7	8	9	10	11	12
A	whole brain	cerebellum, left	substantia nigra	heart	esophagus	colon, transverse	kidney	lung	liver	testes, ML-50	fetal brain	yeast total RNA
B	cerebral cortex	cerebellum, right	nucleus accumbens	aorta	stomach	colon, descending	striated muscle	placenta	pancreas	HeLa S3	fetal heart	yeast rRNA
C	frontal lobe	corpus callosum	thalamus	atrium, left	duodenum	rectum	spleen	bladder	adrenal gland	testes, K-562	fetal kidney	E. coli rRNA
D	parietal lobe	amygdala	pituitary gland	atrium, right	jejunum		thymus	uterus	thyroid gland	testes, MOLT-4	fetal liver	E. coli DNA
E	occipital lobe	caudate nucleus	spinal cord	ventricle, left	ileum		peripheral blood leukocytes	prostate	salivary gland	Berkley's lymphoma, Raji	fetal thymus, spleen	poly(A)
F	temporal lobe	hippocampus		ventricle, right	ileocecum		lymph node	testis	mammary gland	Berkley's lymphoma, Daudi	fetal thymus	human CpG DNA
G	p.p. of cerebral cortex	medulla oblongata		inter-ventricular septum	appendix		bone marrow	ovary		colorectal adenocarcinoma, SW620	fetal lung	human DNA (10 ng)
H	pons	putamen		apex of the heart	colon, ascending		trachea			lung carcinoma, A549		human DNA (500 ng)

* paracentral gyrus

Figure 5

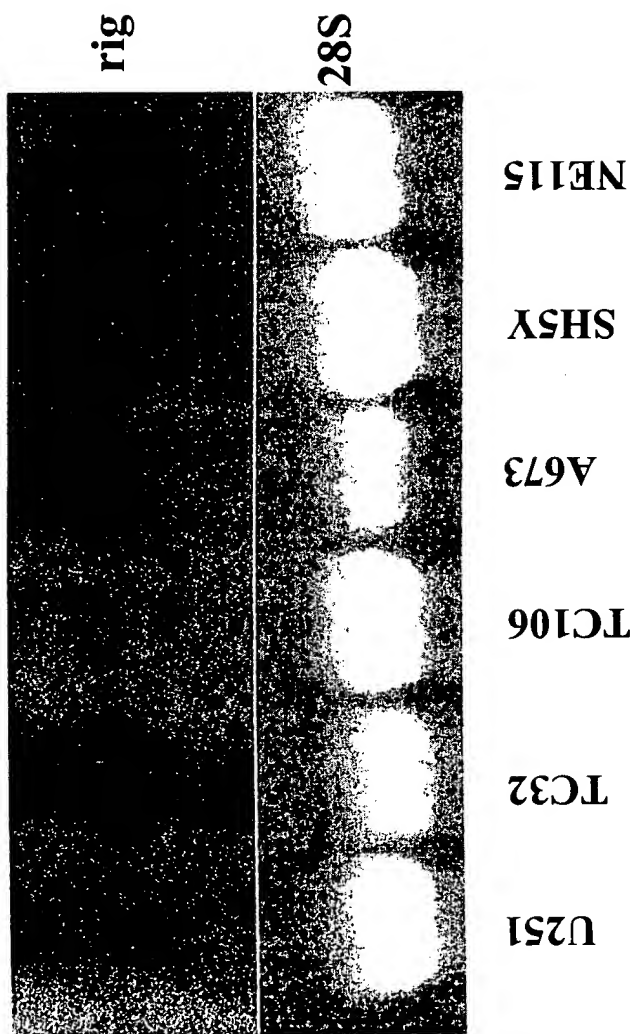


Figure 6

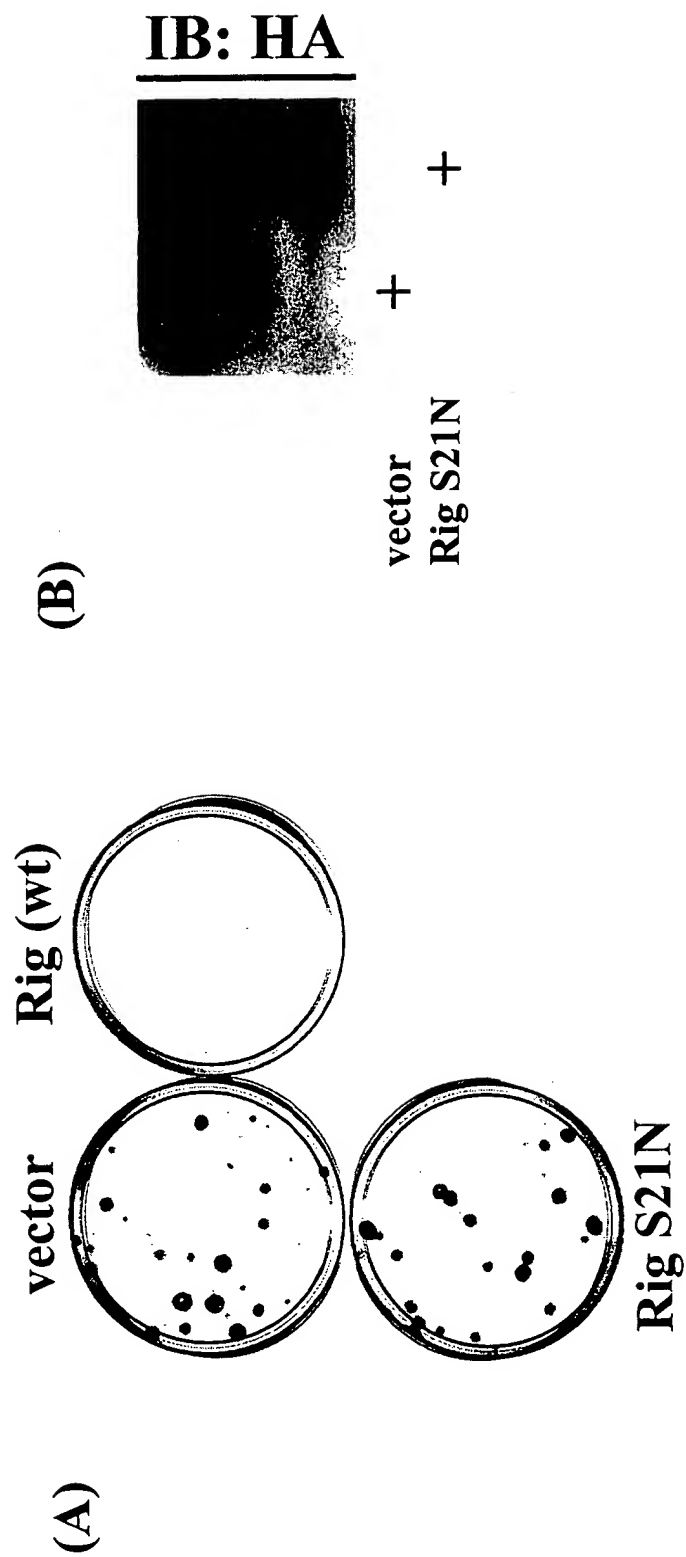


Figure 7

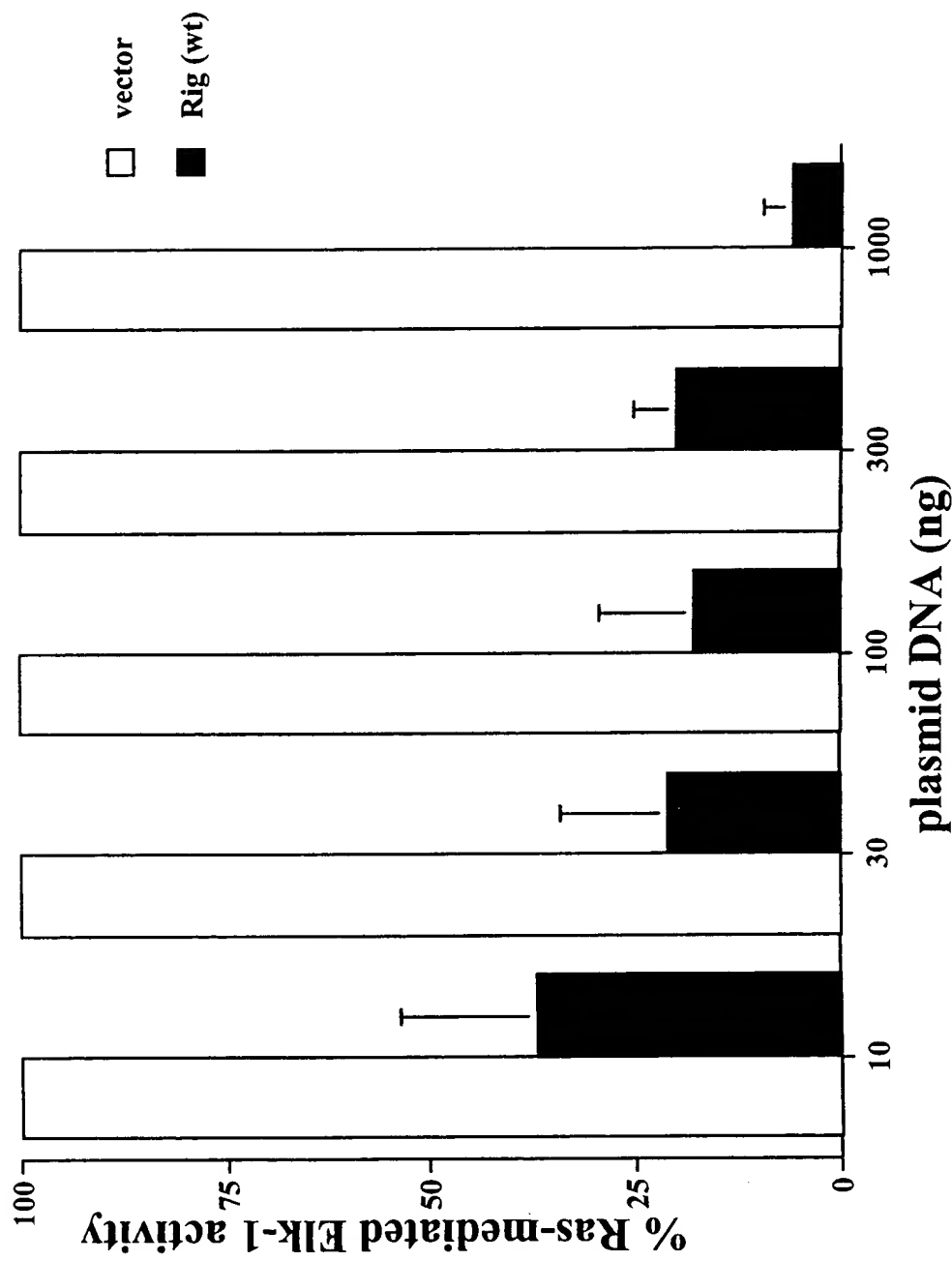


Figure 8

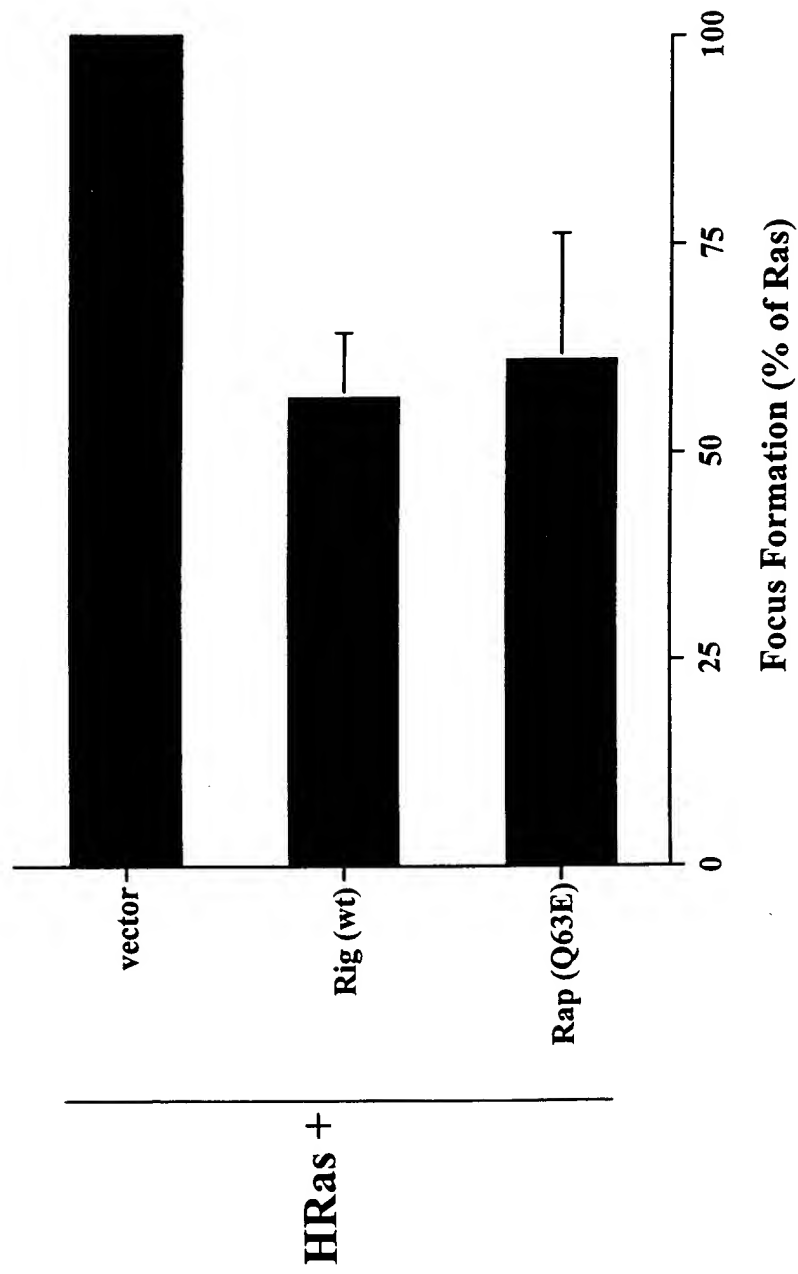


Figure 9

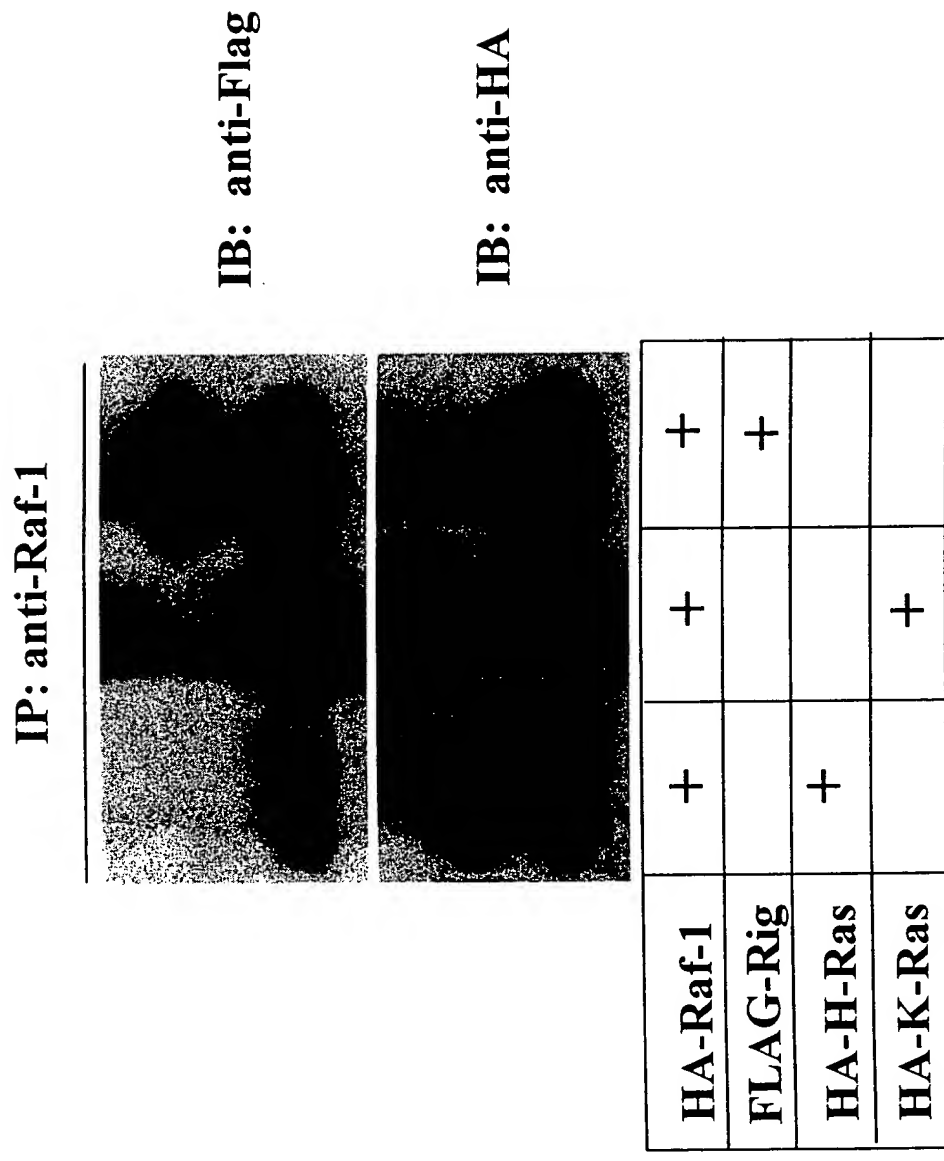


Figure 10

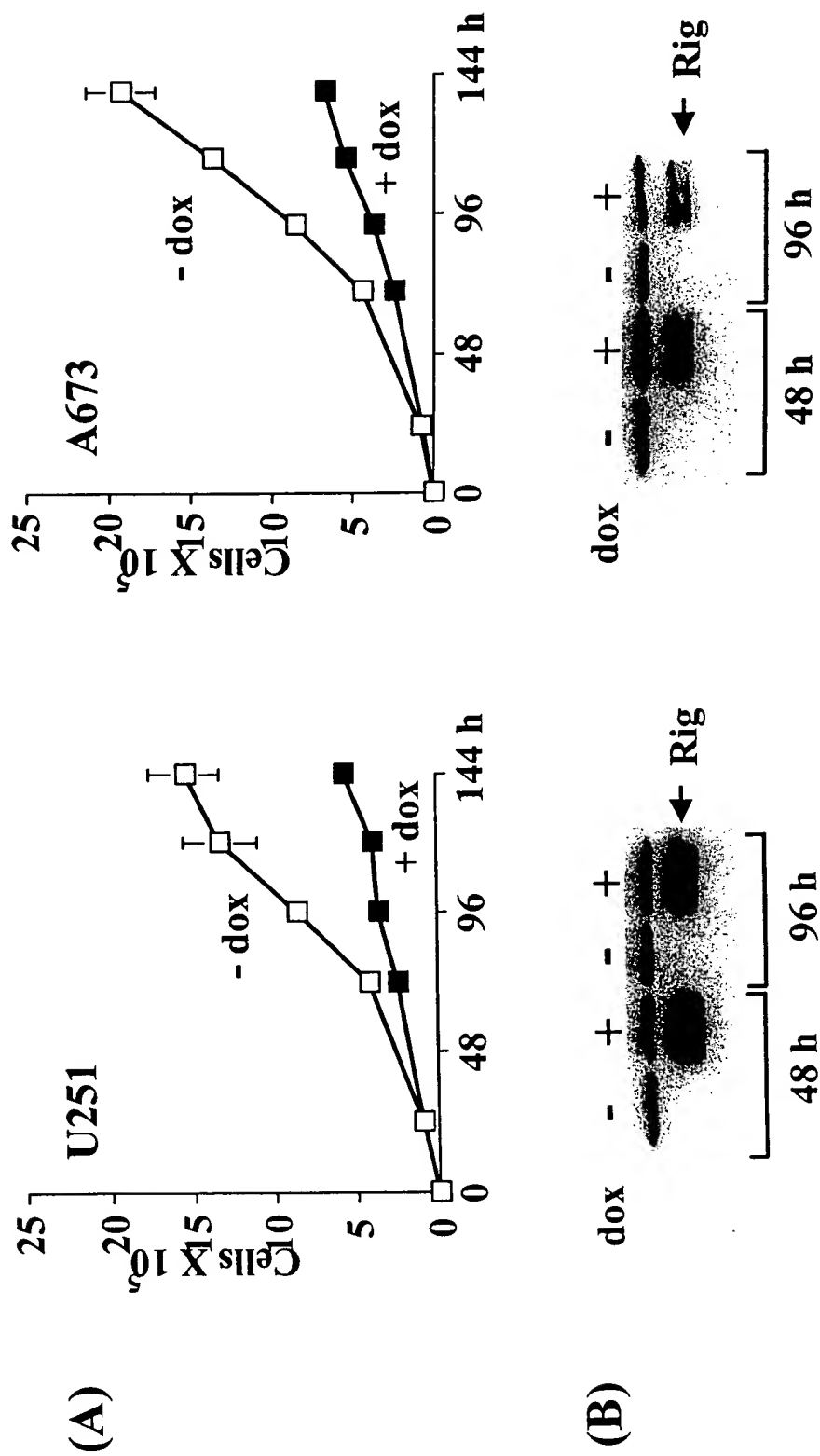


Figure 11

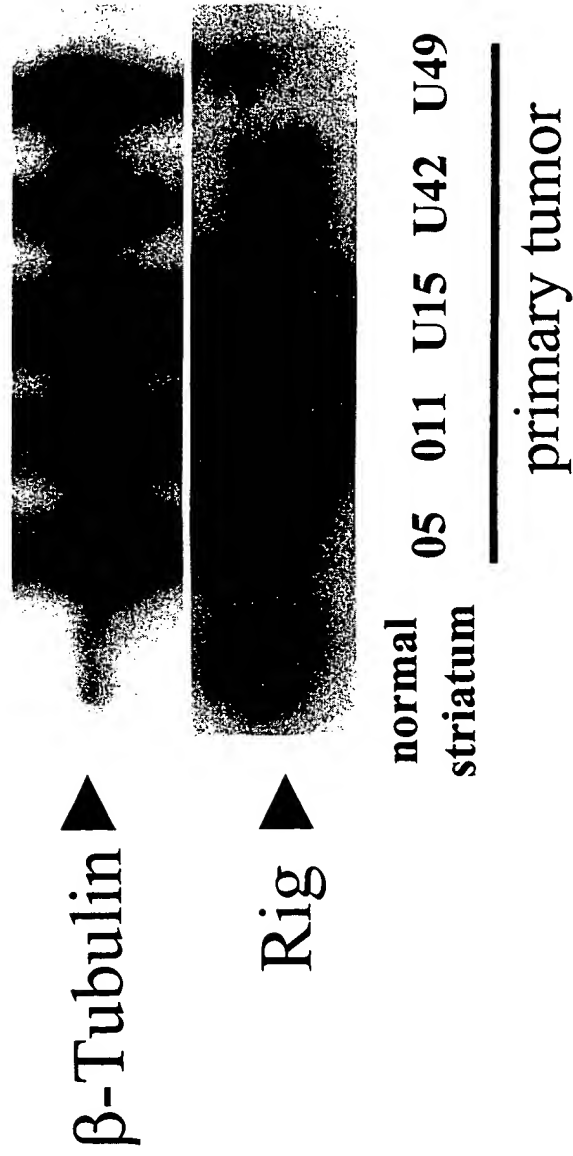


Figure 12

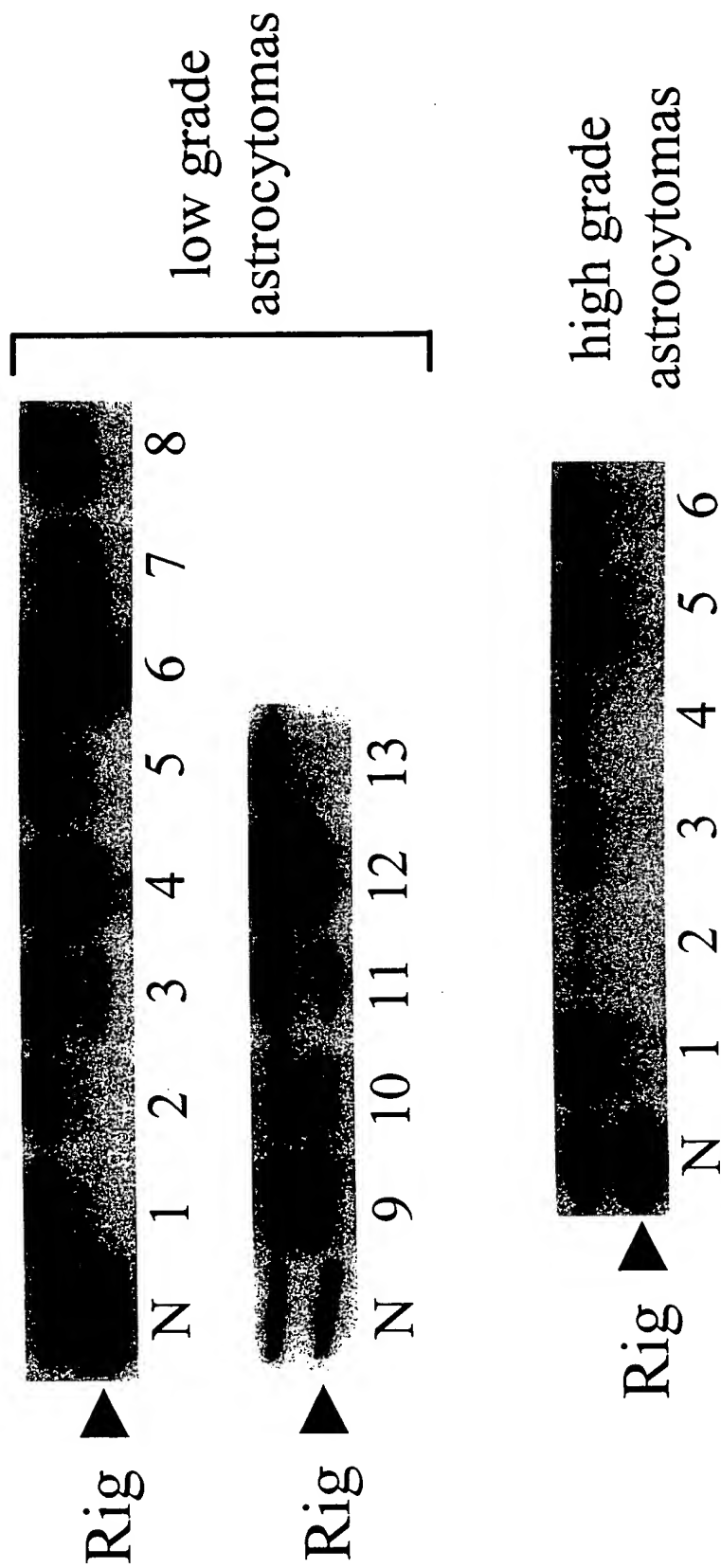


Figure 13

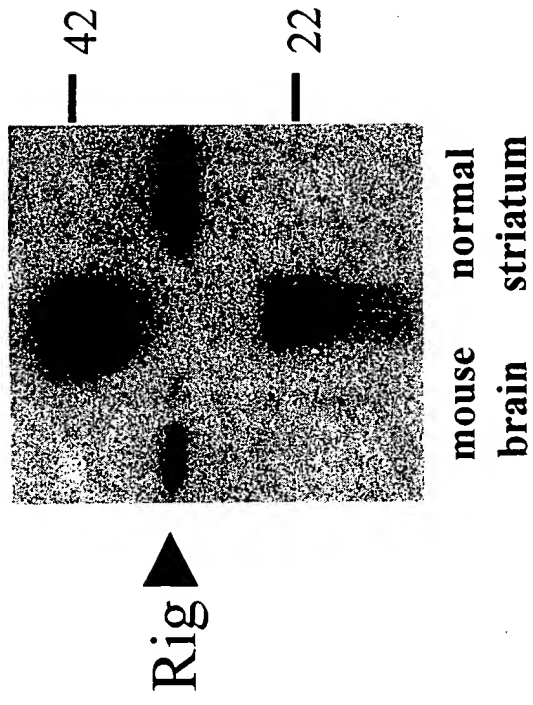


Figure 14

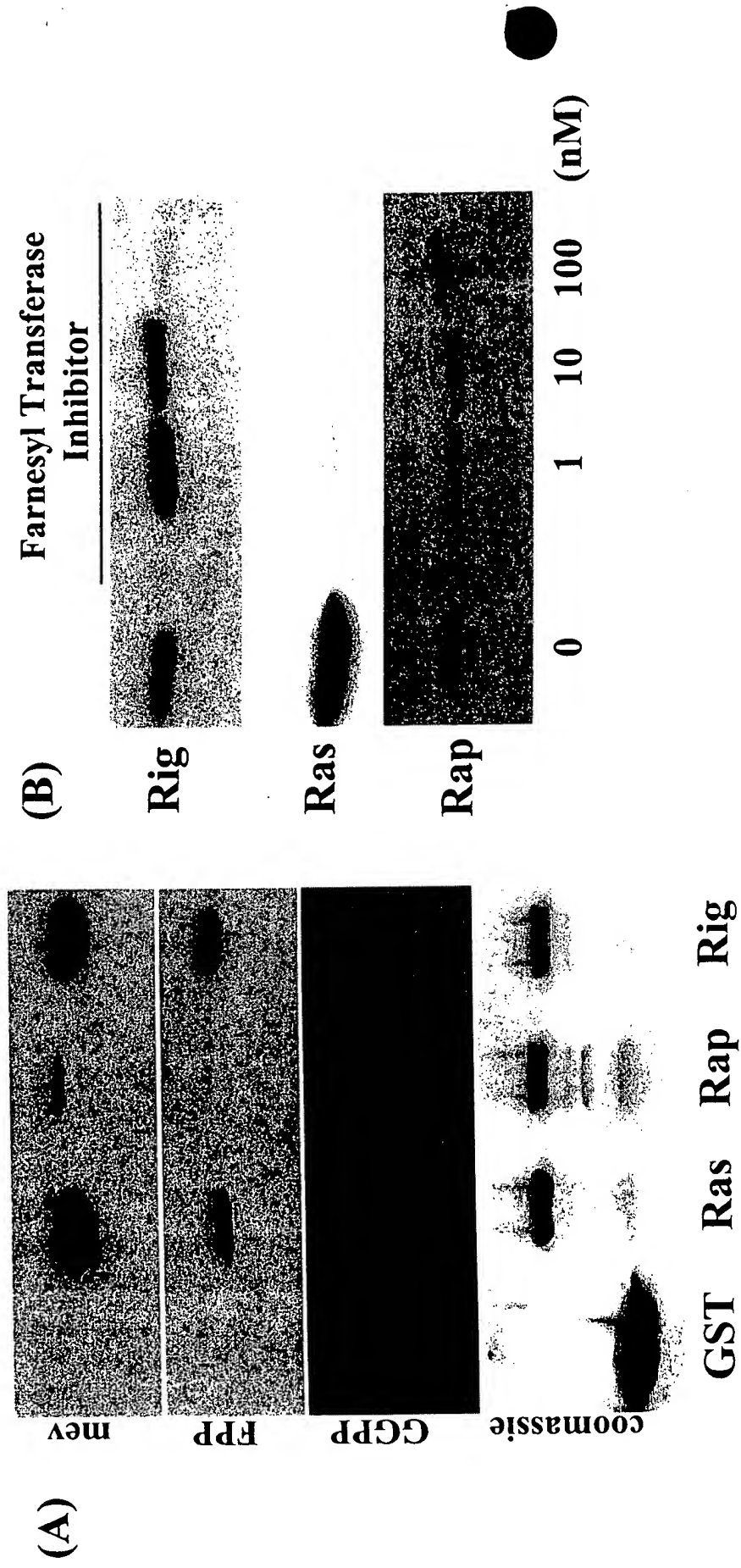
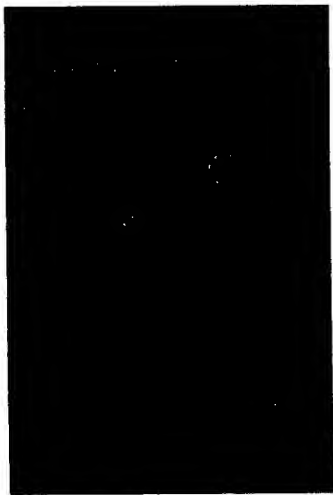


Figure 15

GFP



Rig

